Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend claims 24 and 87 as follows:

Listing of Claims:

Claims 1-23 (Canceled)

24. (Currently Amended) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of porous carrier elements occupying at least part of the height of the hybrid reactor;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor for the first time;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower confines of the reactor;

a space between the central flow channel and a wall of the hybrid reactor in which the carrier elements are positioned, the space extending for at least part of the height of the flow channel, the carrier elements forming a structured, ordered fixed bed to permit flow therethrough, the carrier elements being arranged with flow passages having a predetermined width range between adjacent carrier elements;

a separator system located in the upper portion of the hybrid reactor below the discharge system, the separator system being structured to retain microorganisms floating in the waste water in the hybrid reactor and to separate water passed between the carrier elements into a

first partial flow flowing into the central flow channel at the top end of the hybrid reactor, and a branched-off second partial flow;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel; and

a recirculation system structured to withdraw water from the second partial flow and recirculate the withdrawn water into the waste water loop flow, the recirculation system including a withdrawal member positioned above a portion of the separator system and at a lower level ~~of~~than the discharge system.

25. (Previously Presented) The hybrid reactor of claim 24, wherein the carrier elements comprise plate-shaped carrier elements.

26. (Previously Presented) The hybrid reactor of claim 25, wherein a plurality of packages of the carrier elements are distributed across the circumference of the hybrid reactor, with the plate-shaped carrier elements within each package being arranged parallel to each other and in tangential direction of the hybrid reactor.

27. (Previously Presented) The hybrid reactor of claim 24, wherein the flow passages between adjacent carrier elements each have a width of 3 to 6 cm.

28. (Previously Presented) The hybrid reactor of claim 24, wherein the carrier elements comprise carrier elements substantially of plastics particles and expanded clay particles that are unified with each other.

30. (Previously Presented) The hybrid reactor of claim 24, wherein the withdrawal member of the recirculation system comprises an intermediate space between two plate-like elements as well as a conduit starting in the intermediate space.

32. (Previously Presented) The hybrid reactor of claim 24, wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

33. (Previously Presented) The hybrid reactor of claim 32, wherein the partition comprises partition portions extending in a direction other than horizontally and forms a gas collection space in a highest portion.

34. (Previously Presented) The hybrid reactor of claim 33, wherein, from the highest portion, the partition extends outwardly in downwardly inclined manner and inwardly in downwardly inclined manner.

35. (Previously Presented) The hybrid reactor of claim 32, wherein the withdrawal member of the recirculation system is positioned at the upper side of the partition.

36. (Previously Presented) The hybrid reactor of claim 24, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove gas in the upper portion of the hybrid reactor.

37. (Previously Presented) The hybrid reactor of claim 32, further comprising a second discharge line for gas formed in the hybrid reactor in the region of the partition.

38. (Previously Presented) The hybrid reactor of claim 24, wherein the carrier plates are positioned in 15 to 40 % of the reactor volume.

39. (Previously Presented) The hybrid reactor of claim 24, further comprising a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.

40. (Previously Presented) The hybrid reactor of claim 24, further comprising at least one driving jet outlet terminating below the lower end of the central flow channel.

41. (Previously Presented) The hybrid reactor of claim 24, further comprising immobilized microorganisms and microorganism pellets, the microorganisms in the pellets being different from the immobilized microorganisms.

42. (Previously Presented) A process for anaerobic waste water treatment in a hybrid reactor combining using microorganism pellets and fixed-bed immobilization of microorganisms, in which the waste water to be treated circulates in the hybrid reactor, the process comprising:

directing a mixture of the waste water and the microorganism pellets through a space in the lower portion of the hybrid reactor;

then directing the mixture of the waste water and the microorganism pellets upwardly in a space of the hybrid reactor,

immobilizing microorganisms in the mixture of the waste water and the microorganism pellets using a structured, ordered fixed bed on carrier elements that are porous to permit flow therethrough and form flow passages between each other;

then directing the mixture of the waste water and the microorganism pellets to a separator system serving to retain microorganisms floating in the waste water in the hybrid reactor and separating the waste water into a first partial flow, and a second partial flow;

directing the first partial flow centrally in the hybrid reactor from the top in a downward direction back into the space in the lower portion of the hybrid reactor; and

recirculating at least part of the waste water in the second partial flow into the waste water flow in the hybrid reactor.

44. (Previously Presented) The process of claim 42, further comprising immobilizing microorganisms in the mixture of the waste water and the microorganism pellets.

49. (Previously Presented) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of porous carrier elements occupying at least part of the height of the hybrid reactor;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor for the first time;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower reactor;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel;

a space between the central flow channel and a wall of the hybrid reactor in which the carrier elements are positioned, the space extending for at least part of the height of the flow channel, the carrier elements forming a structured, ordered fixed bed to permit flow therethrough, the carrier elements being arranged with flow passages each having a predetermined width range between adjacent carrier elements of 3 to 6 cm; and

a separator system located in the upper portion of the hybrid reactor below the discharge system, the separator system being structured to retain microorganisms floating in the waste water in the hybrid reactor.

50. (Previously Presented) The hybrid reactor of claim 49 wherein the carrier elements comprise plate-shaped carrier elements.

51. (Previously Presented) The hybrid reactor of claim 49 wherein the carrier elements comprise carrier elements substantially of plastics particles and expanded clay particles that are unified with each other.

52. (Previously Presented) The hybrid reactor of claim 49 wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

53. (Previously Presented) The hybrid reactor of claim 49, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove the gas in the upper portion of the hybrid reactor.

54. (Previously Presented) The hybrid reactor of claim 49, further comprising a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.

55. (Previously Presented) The hybrid reactor of claim 49, further comprising at least one driving jet outlet terminating below the lower end of the central flow channel.

56. (Previously Presented) The hybrid reactor of claim 49, further comprising immobilized microorganisms and microorganism pellets, the microorganisms in the pellets being different from the immobilized microorganisms.

57. (Previously Presented) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of porous carrier elements occupying at least part of the height of the hybrid reactor, the carrier elements comprising carrier elements substantially of plastics particles and expanded clay particles that are unified with each other;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor for the first time;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower reactor;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel;

a space between the central flow channel and a wall of the hybrid reactor in which the carrier elements are positioned, the space extending for at least part of the height of the flow channel, the carrier elements forming a structured, ordered fixed bed to permit flow therethrough, the carrier elements being arranged with flow passages having a predetermined width range between adjacent carrier elements; and

a separator system located in the upper portion of the hybrid reactor below the discharge system, the separator system being structured to retain microorganisms floating in the waste water in the hybrid reactor.

58. (Previously Presented) The hybrid reactor of claim 57 wherein the carrier elements comprise plate-shaped carrier elements.

59. (Previously Presented) The hybrid reactor of claim 57 wherein a plurality of packages of the carrier elements are distributed across the circumference of the hybrid reactor, with the plate-shaped carrier elements within each package being arranged parallel to each other and in tangential direction of the hybrid reactor.

60. (Previously Presented) The hybrid reactor of claim 57 wherein the flow passages between adjacent carrier elements each have a width of between 3 and 6 cm.

61. (Previously Presented) The hybrid reactor of claim 57 wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

62. (Previously Presented) The hybrid reactor of claim 57, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove the gas in the upper portion of the hybrid reactor.

63. (Previously Presented) The hybrid reactor of claim 57 wherein the carrier plates are positioned in 15 to 40 % of the reactor volume.

64. (Previously Presented) The hybrid reactor of claim 57, further comprising a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.

65. (Previously Presented) The hybrid reactor of claim 57, further comprising at least one driving jet outlet terminating below the lower end of the central flow channel.

66. (Previously Presented) The hybrid reactor of claim 57, further comprising immobilized microorganisms and microorganism pellets, the microorganisms in the pellets being different from the immobilized microorganisms.

67. (Previously Presented) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of porous carrier elements occupying at least part of the height of the hybrid reactor;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor for the first time;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower reactor;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel;

a space between the central flow channel and a wall of the hybrid reactor in which the carrier elements are positioned, the space extending for at least part of the height of the flow channel, the carrier elements forming a structured, ordered fixed bed to permit flow therethrough, the carrier elements being arranged with flow passages having a predetermined width range between adjacent carrier elements;

a separator system located in the upper portion of the hybrid reactor below the discharge system, the separator system being structured to retain microorganisms floating in the waste water in the hybrid reactor; and

a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.

68. (Previously Presented) The hybrid reactor of claim 67 wherein the carrier elements comprise plate-shaped carrier elements.

69. (Previously Presented) The hybrid reactor of claim 67 wherein the flow passages between adjacent carrier elements each have a width of between 3 and 6 cm.

70. (Previously Presented) The hybrid reactor of claim 67 wherein the carrier elements comprise carrier elements substantially of plastics particles and expanded clay particles that are unified with each other.

71. (Previously Presented) The hybrid reactor of claim 67 wherein the withdrawal member comprises an intermediate space between two plate-like elements as well as a conduit starting in the intermediate space.

72. (Previously Presented) The hybrid reactor of claim 67 wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

73. (Previously Presented) The hybrid reactor of claim 67, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove the gas in the upper portion of the hybrid reactor.

74. (Previously Presented) The hybrid reactor of claim 67 wherein the carrier plates are positioned in 15 to 40 % of the reactor volume.

75. (Previously Presented) The hybrid reactor of claim 67 further comprising at least one driving jet outlet terminating below the lower end of the central flow channel.

76 (Previously Presented) The hybrid reactor of claim 67, further comprising immobilized microorganisms and microorganism pellets, the microorganisms in the pellets being different from the immobilized microorganisms.

77. (Previously Presented) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of carrier elements occupying at least part of the height of the hybrid reactor;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor for the first time;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower reactor;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel;

a space between the central flow channel and a wall of the hybrid reactor in which the carrier elements are positioned, the space extending for at least part of the height of the flow channel, the carrier elements forming a structured, ordered fixed bed to permit flow therethrough, the carrier elements being arranged with flow passages having a predetermined width range between adjacent carrier elements;

a separator system located in the upper portion of the hybrid reactor below the discharge system, the separator system being structured to retain microorganisms floating in the waste water in the hybrid reactor; and

a plurality of different kinds of microorganisms in the form of immobilized microorganisms and microorganism pellets, the microorganisms in the pellets being different from the immobilized microorganisms.

78. (Previously Presented) The hybrid reactor of claim 77 wherein the carrier elements comprise plate-shaped carrier elements.

79. (Previously Presented) The hybrid reactor of claim 77 wherein the flow passages between adjacent carrier elements each have a width of between 3 and 6 cm.

80. (Previously Presented) The hybrid reactor of claim 77 wherein the carrier elements comprise carrier elements substantially of plastics particles and expanded clay particles that are unified with each other.

81. (Previously Presented) The hybrid reactor of claim 77 wherein the withdrawal member comprises an intermediate space between two plate-like elements as well as a conduit starting in the intermediate space.

82. (Previously Presented) The hybrid reactor of claim 77 wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

83. (Previously Presented) The hybrid reactor of claim 77, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove the gas in the upper portion of the hybrid reactor.

84. (Previously Presented) The hybrid reactor of claim 77 wherein the carrier plates are positioned in 15 to 40 % of the reactor volume.

85. (Previously Presented) The hybrid reactor of claim 77, further comprising a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.

86. (Previously Presented) The hybrid reactor of claim 77, further comprising at least one driving jet outlet terminating below the lower end of the central flow channel.

87. (Currently Amended) A hybrid reactor for anaerobic waste water treatment, comprising:

a plurality of microorganism pellets;

a plurality of carrier elements occupying at least part of the height of the hybrid reactor for immobilizing microorganisms;

a space in a lower portion of the hybrid reactor between the lower confines thereof and the carrier elements to contain the plurality of microorganism pellets for degradation of waste water contamination by the microorganism pellets;

an upper portion of the hybrid reactor between the upper confines thereof and the carrier elements;

a supply line for waste water to be treated and to be introduced into the hybrid reactor;

a discharge system for discharging treated waste water from the hybrid reactor,

a central flow channel extending from the top of the hybrid reactor in downward direction from a first distance from the upper confines of the reactor to a second distance from the lower confines of the reactor;

the hybrid reactor being structured to allow the waste water flow in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction, and finally again into the central flow channel;

the carrier elements positioned in an annular space between the central flow channel and a wall of the hybrid reactor for at least part of the height of the flow channel for immobilizing microorganisms, the carrier elements comprising a structured, ordered fixed porous bed to permit flow therethrough, the carrier elements being arranged with flow passages having a predetermined width range between adjacent carrier elements;

a separator system located in the upper portion of the hybrid reactor below the discharge system to retain the microorganisms floating in the waste water in the hybrid reactor;

the waste water inclusive of the microorganism pellets flowing in the hybrid reactor in a loop through the central flow channel in downward direction, then through the space in the lower portion, then along the carrier elements in upward direction and finally again into the central flow channel; and

a recirculation system structured to withdraw water from the second partial flow and recirculate the withdrawn water into the waste water loop flow, the recirculation system including a withdrawal member positioned above a portion of the separator system and at a lower level ~~of~~than the discharge system.

88. (Previously Presented) The hybrid reactor of claim 87 wherein the carrier elements comprise plate-shaped carrier elements.

89. (Previously Presented) The hybrid reactor of claim 87 wherein the flow passages between adjacent carrier elements each have a width of 3 to 6 cm.

90. (Previously Presented) The hybrid reactor of claim 87 wherein the carrier elements comprise carrier elements substantially of plastics particles and expanded clay particles that are unified with each other.

91. (Previously Presented) The hybrid reactor of claim 87 wherein the separator system comprises a partition provided in spaced apart manner above the upper end of the central flow channel and covering a major part of the reactor cross-sectional area while leaving free an outer annular area.

92. (Previously Presented) The hybrid reactor of claim 87, further comprising a first discharge line for gas formed in the hybrid reactor and structured to remove gas in the upper portion of the hybrid reactor.

93. (Previously Presented) The hybrid reactor of claim 87 wherein the carrier plates are positioned in 15 to 40 % of the reactor volume.

94. (Previously Presented) The hybrid reactor of claim 87, further comprising a flow hindrance positioned on the wall of the lower portion of the hybrid reactor.1.